

# MAINE SNOWMOBILE TRAIL SIGNING GUIDELINES



## **Message from the ORV Director**

I want to thank you for taking the time to look at and read this trail sign guideline manual. This manual is the first step in what we hope will be a dramatic improvement of trail sign maintenance on our state-wide snowmobile trail system. In spite of the fact that the Maine Bureau of Parks and Lands mails or delivers approximately 60,000 signs a year to snowmobile trail maintainers, the number one complaint we have heard from trail riders is inadequate or marginally adequate sign maintenance and placement. Signing is not only for those who know the trail, but more importantly, as a safety reminder for those traveling longer distances and not familiar with the area.

This guideline is the result of several years of working with many other snowmobile trail administrators, land managers, various government agencies across the Snow Belt in the United States and Canada and the MSA Trail Committee. We all have heard or experienced the same complaints so this project was one of the first major multi-state / province projects accomplished through the International Association of Snowmobile Administrators.

This guideline does not attempt to address every possible situation that may occur on the statewide trail system, but is a guide to help all the trail volunteers across Maine work toward a common goal of a well signed and safe trail system. We must be diligent and constantly work to improve the information we provide along our trails. Thank you for your effort and cooperation on this project and remember to remove or replace old faded signs, write clear messages when appropriate and let us know where your trail goes. We have found that permanent paint markers, like magic markers are very durable and easy to use filled with paint and are great for hand printing messages on stop, caution, or trail information signs.

**See you on the trail!**

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**Snowmobile Trails** must be clearly marked and signed so that trail users who are not familiar with the area can easily and safely follow the trail. Being lost is not an enjoyable experience and could result in a ruined trip, spoiled vacation or the inability to find services and first aid.

**DOC's goal and your goal is to make certain that no one gets lost or injured on your trail due to inadequate sign maintenance and placement.**

Specific land marks, highway crossings, town lines, mileage to certain points, location of support facilities, etc., should be noted along the trail. This will inform riders where they are located and direct them to the services they need or their destination.



Installing Kiosks or smaller information boards with maps at parking areas and major intersections indicating where the rider is located in relation to the trail system, is a great way to help keep riders oriented. Mapping and marking rescue locations is also very helpful. When there is a need for assistance, the location can be given to rescue personnel, making it quicker and easier for them to be found. If you decide to insert this information you will have to coordinate it with the local Search and Rescue Agencies. This coordination ensures that the correct locations are chosen and that all rescue agencies have the same information. The Kiosk is also a great place to neatly and professionally advertise businesses in the area.

## **Guidelines**

The Bureau has developed these guidelines in conjunction with the International Association of Snowmobile Administrators (IASA) for marking trails and we urge everyone to follow them.

Creating a uniform trail signing system throughout the State will make the usage of the trails easier, safer and more enjoyable.

### **• INSTALL SIGNS ON THE RIGHT SIDE OF THE TRAIL**

The majority of trails in Maine are two-way, which requires marking for travel in both directions.

Signs should be installed on the right side of the trail whenever possible and should be installed facing the direction snowmobiles are coming from. It is important that the signs be placed in a location that will ensure that they will be seen in a timely manner. When two or more signs are used in conjunction, the more important message to be conveyed should be in the higher position (see Figure 3 on page 19).

- **INSTALL SIGNS ON POSTS**

We recommend signs be installed on sign posts instead of trees due to the fact that sign posts will allow signs to be posted closer to the trail and be more visible. If signs are installed on trees they should be installed with staples or aluminum nails so they don't cause a timber harvesting or sawmill hazard. Snowmobile signs should be placed only where the registered land owner or lessee has authorized them to be. All signs should be removed if the trail is discontinued, temporarily moved, or at the end of the season, unless the landowner allows them to be left in the off season.

- **INSTALL SIGNS PROVIDED BY THE DOC SNOWMOBILE PROGRAM**

The Snowmobile Program provides plastic signs which are durable and will last if properly installed. Signs should be mounted on a stiff backing to make them more resistant to wind and adverse weather.

Backings can be made from plywood, tempered hardboard, rough lumber, or similar materials. If wide sign posts are used, backings may not be necessary.

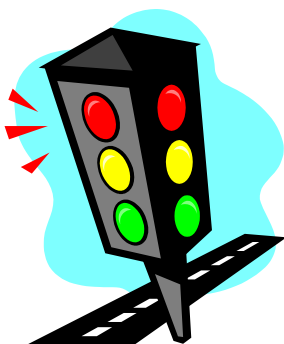
## **• INSTALL AN ADEQUATE NUMBER OF SIGNS AND MAINTAIN THEM**

Many times those of us familiar with a trail know it so well that we fail to install enough signs or give enough information for people who may not be familiar with the trail system. We recommend that you have people who aren't familiar with the trail ride it and tell you if they think there needs to be more signs. This is a great way to get new club members involved!

Many of us at some time or another have become lost on a trail system due to the fact that it was not marked adequately or the trail signs were not maintained properly and tree limbs or other vegetation was blocking the signs. Regular sign maintenance is important! You can't put signs up and then never maintain or check them again. It's very important that signs be regularly checked and maintained. This shouldn't be just the job of the trail master or groomer operator. All of us need to play a part in helping keep the trails open and **safe**. Trail crews should carry extra signs with them to replace ones that have been destroyed or to install new ones in areas where a potential hazard has developed and where old signs have faded, ripped, or been vandalized. The trail groomer operator should be the last resort for sign maintenance, since their primary job is grooming and maintaining the groomer and equipment. Signs should be maintained by snowmobile riders on the trail or during the pre or post-season by vehicle.

## • SIGN COLOR SCHEME

You should always keep the street light color scheme in mind with a slight deviation for snowmobiling when installing signs.



**Street Light**

We have adopted this color scheme for trail signing. The green or snowmobile orange signs are all positive affirmation that you are on the trail. Orange signs are frequently used internationally for snowmobile trails. The yellow signs contain some kind of cautionary or warning message. The red and white signs tell you to stop, don't go, or don't do something, they are regulatory in nature.

You should keep this color scheme in mind when installing signs.



## **Trail Signs**

The following are signs issued by Maine's Snowmobile program. Most of these signs are available, free of charge, to Snowmobile Clubs or Landowners from the Snowmobile Program of the Bureau of Parks and Lands. These should be installed using the guidelines that follow:

### **Trail Blaze**



This sign should be used at regular intervals along the trail to reassure the rider they are still on the trail. A blaze immediately beyond an

intersection or road crossing informs a rider where the trail continues on the other side or beyond.

This is especially important when the crossing is not direct. If the trail is hard to see because it is an open area, road, etc., you may need to use a Trail Identification sign since it's larger and easier to see, or use it in conjunction with an arrow or information sign.

### **No Snowmobiling**



Only use in locations where snowmobiles are not allowed.

## Trail Identification



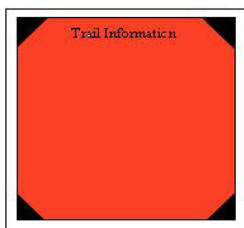
This sign should be used at the beginning of a trail, such as at a Clubhouse, parking lot, or place of business etc. It should be used to show the trail name, number, destination, and/or direction of travel (NSEW), etc. as well as at junctions with the name of the club maintaining the trail. In some instances this sign can be used instead of the Trail Blazer as it may be easier to see at the entrance from a field or other large clearing.

## Stay On Marked Trail



This sign should be used when the trail travels through crop lands, tree plantations, or anywhere a landowner has given permission to cross their lands only at a specific location. This is also a good sign to use anywhere riders may be tempted to access an unauthorized side trail. It may also be appropriate to install these at picnic areas or at Kiosks as a reminder to users that 95% of Maine's snowmobile trails are on private property that we are allowed to use due to the good will of the landowner.

## Trail Information



This sign should be used together with other signs to provide additional information that would be helpful to the user. It can be used to mark town lines and geographic names as well as distance and direction to

businesses or destinations etc., to help orient the rider.

If a club has the trail mapped they may want to note reference points on the map. We recommend you use a paint marker when printing clear simple messages on these signs. Regular permanent markers tend to fade quickly in the sun and may soon be unreadable.

## Services



Use this sign to display area services names and locations. Use only one sign for a specific business and locate that sign at the nearest intersection to that business. This is the only sign to be used for this purpose, unless the

landowner specifically authorizes “advertising” signs and the town or LURC sign ordinances allow off premise signs in this location. Prior to installation of off premise signs always check with the Town or LURC.

## Caution



This sign should be placed on the trail to notify the operator to proceed with caution due to a variation in the trail condition. The sign should be placed far enough in advance so that the operator has enough

time to react accordingly (see table 1 for spacing guidelines). A blank space is provided on the sign for specific information to be printed clearly such as narrow bridge, steep grade, blind curve, intersection, ditch, gate, etc., or stickers can be purchased from a vendor (call the DOC, ORV Division for more information on stickers). If more information is necessary then a Trail Information sign should be used in conjunction with the Caution sign. A good rule for caution sign placement is that if breaking is required at a reasonable travel speed, a caution sign is necessary (see table 1 page 21 for placement guidelines).

## Winding Trail



This sign informs riders they are approaching a series of curves where the trail typically narrows and wanders back and fourth. This sign should be placed in these locations

to warn riders that they should slow down from higher speeds of travel.

## Directional Arrow



This sign is used to show right or left-hand turns. It is generally not used to mark the trail straight ahead; a trail blaze is used for that. The arrow should be placed far enough in advance of the corner to allow the snowmobile operator ample time to slowdown. The actual distance necessary will vary depending on the normal travel speed of the trail it's located on and how sharp the corner is. This sign can be used in conjunction with a caution sign or two arrows can be used on unusually sharp or blind turns.

## Object Marker



This sign should only be used to mark bridge abutments, fence posts, gate openings or other similar hazards or restricts the width of the normal trail that the operator has to drive between. The diagonal stripes should point down and in toward the trail opening. The sign should not be used to replace arrow, caution, blaze or any other sign. This sign is to mark “**OBJECTS ONLY**”; it is not to mark sections of a normal trail.

## Stop Ahead



This sign is to be used together with the Stop sign. It should be placed in advance of the Stop Sign to give riders ample opportunity to slow down in order to safely stop (see

table, page 21). Terrain visibility and reasonable expected travel speed will determine the distance the sign should be placed before the Stop Sign, but it should be at least 100 feet in advance of the stop location. There may be instances where a Stop Ahead sign should be posted on the left and right side of the trail, for example at busy higher speed trails and at blind curves that occur before a stop. Trail junctions, may also need, stop ahead signs posted to assume safe trail use.

## STOP



This Sign should be placed at each public and private road, or authorized railroad crossing. As an additional aid print clearly on the bottom of every stop sign, in the space provided, the

route number or name of the road that the trail is crossing. This will help riders orient themselves on a map if they have one. Don't write the trail name or direction of travel on the Stop sign. There may be instances where a Stop sign should be posted on the left and right side of the trail, for example, at busy higher speed trails with stops at the bottom of a hill or blind curves approaching a road crossing.

## Trail Sign Placement

This section provides basic information on how snowmobile trail signs are to be oriented and installed using diagram examples.

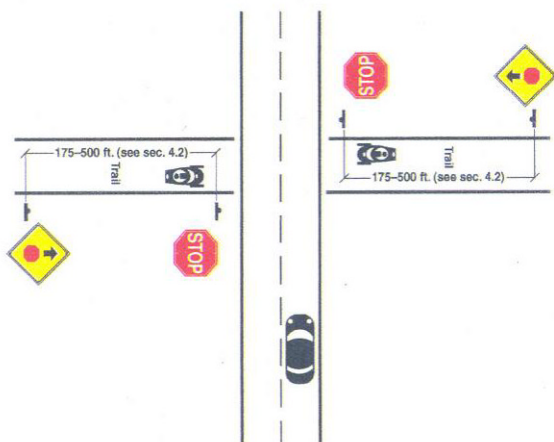
## Road Crossings

Because of the unique hazard at some road crossings it is very important that riders have extra warning. On particularly high speed trails such as rail trails and logging roads we recommend you consider using two Stop Ahead signs and /or two Stop signs, or a Caution sign in addition to the Stop Ahead sign. Write **Road Crossing** on the caution sign. Each of these signs should be pointing down, oriented in the diamond shape and located a minimum of 100 feet in advance of the previous one (See Illustrations on pages 13 and 14).

## Trail Intersections

Trail intersections should be marked so that riders have ample time to slow down and stop before the intersection. It should also be well marked with directions so riders know which way to go in order to continue along their chosen route. The anticipated speed of travel

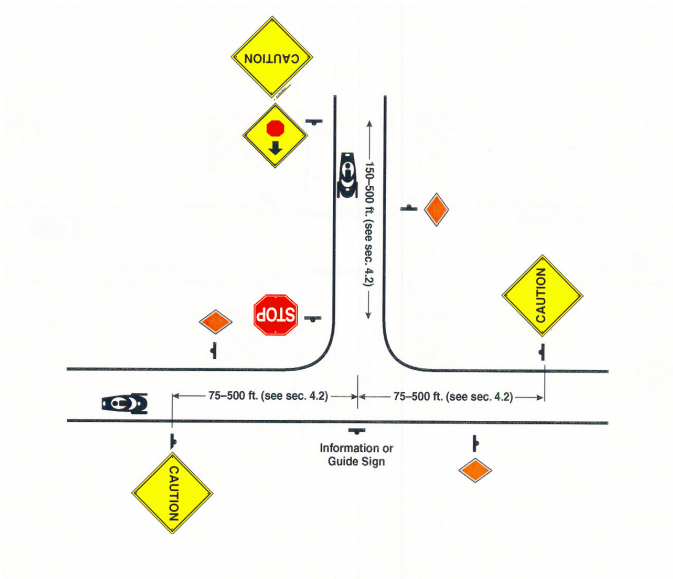
## Road Crossing





will determine how far in advance of the intersection the signs should be installed. Generally the **Stop Ahead** will need to be further from the intersection than **Caution** because the operators must **Stop** instead of just slowing down. Write **Intersection Ahead** on the caution signs or use information sign.

## Intersection

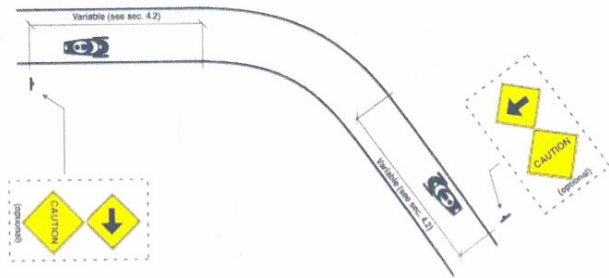


## Curves

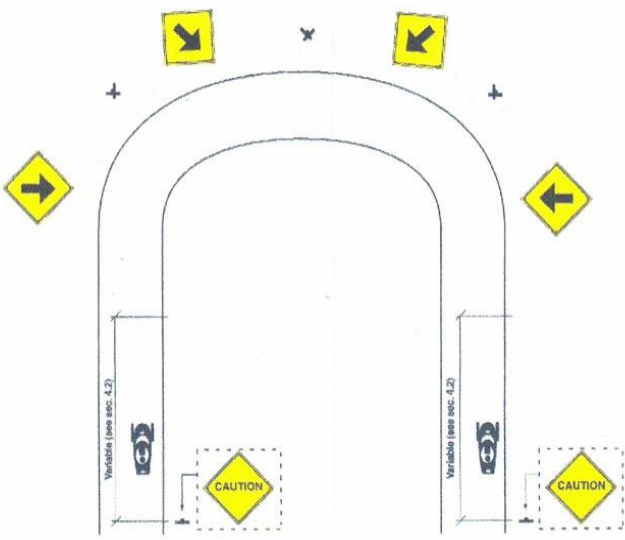
Curves and Corners are particularly challenging to sign but certainly should be marked so that operators have adequate advanced warning to slow down to safely negotiate the curve. The safe anticipated speed on the section of trail and the sharpness of the corner will determine how far in advance the signs should be installed. Typically a single arrow on the right side of the trail is adequate. A good rule of thumb is to place the sign where it is visible to on coming traffic at the moment they should be engaging their brake or releasing the throttle to safely negotiate the corner at a reasonable speed. On the occasion that a curve is more than 90° it may be helpful to add a second arrow part way around the curve (see page 16). The key is to ensure that the signs be installed **before** the corner. If a Caution sign is necessary due to the severity of the curve, write **Curve or Sharp Corner** on the caution sign and place it in conjunction with the directional arrow installed before the corner.



# Curve



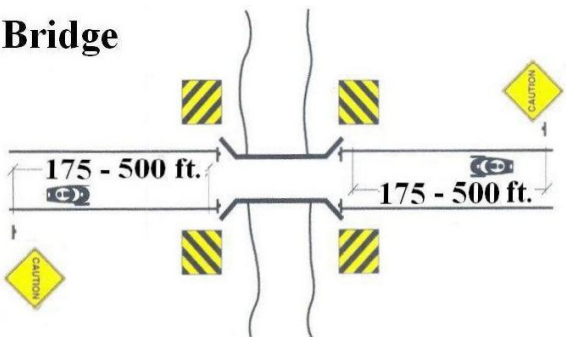
# Tight Turn of More Than 90°



## Bridge Crossing, Gates, Narrow Openings

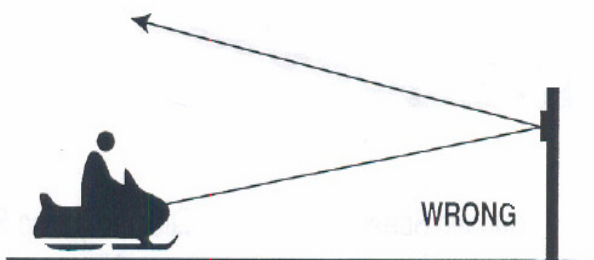
Bridges, Gates and Narrow Openings should all be marked with Object Markers in conjunction with Caution signs prior to the object. Write **Bridge Ahead, Gate, or Narrow Opening** on the caution signs. Generally operators don't have to stop at these locations but they might have to if it's only one lane wide. Considerations like width, visibility, approach, height of railing, and anticipated speed are all factors to be considered when placing signs. Object markers should be mounted on both sides of the object and on both ends of the object or restriction, always with the black lines pointing down and to the center.

### **Bridge**



## Sign Orientation

One critical component of sign mounting is understanding how reflective signs work. Almost every sign the State of Maine provides is reflective sign. One good analogy is to think of reflective signs as mirrors. To maximize the nighttime view of the sign it must be placed *at eye level and perpendicular to the direction of travel of the trail*. This orientation also ensures that the sign is visible over the longest possible period so that the rider has a chance to understand the message and to react accordingly. This important concept is illustrated by figures 1 and 2.



- a) Signs placed too high do not reflect headlight beams back to the rider.



- b) Signs placed at the rider's eye level reflect back correctly and are much more visible at night.

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**Figure 1    Sign Orientation, Side View**

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**Remember, signs should never be located on power or utility poles.**



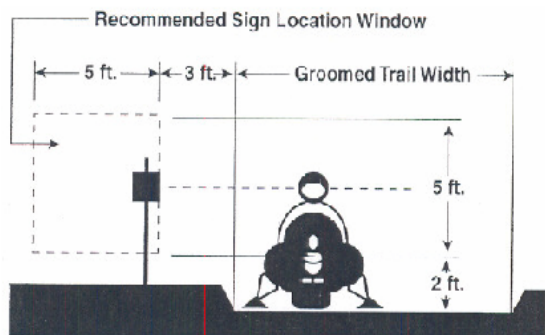
- a) Signs facing the trail do not reflect headlight beams back to rider and are very difficult if not impossible to see at night.



- b) Signs placed perpendicular to the trail reflect headlights back to the rider correctly.

**Figure 2 Sign Orientation, Plan View**

Figure 3 defines an imaginary "window" for ideal sign locations. Signs should be oriented perpendicular to the trail corridor within a 5 ft x 5 ft area which starts 3 ft from the trails edge and 2 ft above the trail surface. Sign placement outside the window will not perform as well and should be avoided if possible.



**Figure 3 Recommended Sign Location Window**

## **Posting Distances**

One of the most frequently asked questions in posting a sign is how far in advance of the trail condition should the sign be placed. Table 1 on page 21, offers some guidance on what the appropriate sign posting distances should be. These recommendations have been developed through a variety of snowmobile and traffic publications, including the Manual on Uniform Traffic Control Devices and field observations. The minimum sign posting distances recommended on page 21 pertain only to Stop Ahead and Caution signs. We recognize traffic engineers are not involved with trail sign location or installation and trail conditions may change by the hour, so a considerable amount of common sense is needed and associated with reasonable and prudent trail sign placement based on expected trail speeds.

The sign posting table looks at two situations. The first is a situation where a caution or stop ahead sign is posted so that a snowmobile can come to a complete stop before the trail condition. The most common examples of this situation would be a "Stop Ahead," "Bridge Ahead" and "Intersection Ahead": The second signing situation is one where a caution sign is posted so that a snowmobiler might have to reduce speed, but not necessarily come to a complete stop. Examples of this situation might be "Logging Ahead", "Left Curve", "Steep Hill" or "Dip" or trail junction.

A key factor in using Table 1 is the judgment of the signing crew on what the reasonable and prudent speed of the majority of snowmobilers in that situation would be traveling at and what reduction in speed is necessary for the snowmobiler to comfortably and safely negotiate the trail condition.

Table 1: Caution Sign Placement

Suggested Minimum Posting Distances for Snowmobile Caution Signs					
Judged Speed (mph)	Condition Requiring Stop "X" =	Deceleration Distance to Desired Speed (mph) "Y" =			
		10	20	30	40
20	*	**			
25	*	100	**		
30	175	150	100		
35	225	200	175	**	
40	300	275	250	175	
45	350	350	300	250	**
50	425	400	400	325	225
55	500	500	475	400	300

\* No suggested minimum distance recommended. At these speeds, sign location depends on physical conditions at the site.

\*\* No suggested minimum distance. At these 5 mile per hour reductions in speed, location depends on the physical conditions at the site.

- Examples showing the use of Table 1 above can be found on pages 13 and 14.
- Regulatory signs shall be placed to the side of the trail in accordance with page 12. Unlike caution signs, regulatory signs are located where the desired action is to take place.

## Corridor Setting

In forested areas, following the trail may be a fairly obvious and straightforward task. However, when trails cross fields, meadows or other cleared areas, trail routing may not be at all obvious. Relying on the groomed track for trail is not usually adequate since even a well-established trail can be quickly obscured by a heavy snow fall, winter winds or after heavy random traffic.



Both snowmobilers and groomer operators need continuous reference points to navigate the trail confidently. A simple method of identifying the trail corridor in open areas is to use stakes or poles that are mounted into the ground or snow adjacent to the trail or in the middle of the two lanes. Placing poles in the middle of the two lanes requires a “Keep Right” sign posted at each end of the open area.

## **Stakes/Poles**

In areas where snow depths are low to moderate, a typical stake is a 2" x 2" (minimum) piece of inexpensive lumber sharpened at one end to allow for installing in the ground. A minimum of 12" at the top of the stake is painted a color that offers high contrast to the background, e.g. blaze or fluorescent orange. This will make the stake more visible during the flat light conditions that can occur during daylight hours.

At least 3 square inches of reflective material should be attached on both sides of the stake at a point 4 inches down from the top of the stake. This will make the stake more visible at night from both directions of travel. The length of the stake is selected so that when it is driven into place, a minimum of 40" of stake remains visible above the top of the snow with the reflective material being as close to eye level as possible. Stake lengths in these snow conditions are typically 4, 5 or 6 feet.

Figure 4 shows a recommended configuration an inexpensive wooden stake.

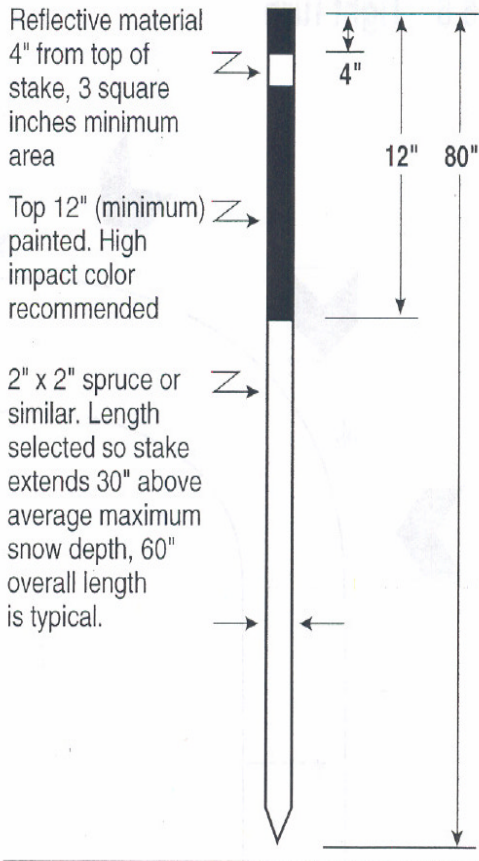
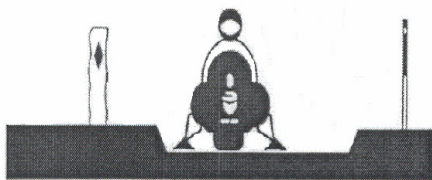


Figure 4 Typical Stake

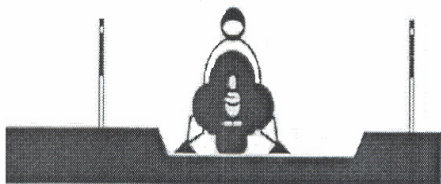
Stakes are driven into the snow or ground within the sign location window previously defined in figure 3 on page 19 for outside edge delineation. A commercial post driver is a simple and inexpensive tool that makes this task much easier.

If the centerline of a two-way trail is staked, the trail should be located approximately 3 feet on either side of the stake and Keep Right signs positioned at each end of the open area.

In areas where snow depths are moderate to heavy (6'-12'+) it may not be practical to use stakes that are driven into the ground. Large seasonal snow depths may dictate the use of plastic fence posts, PVC tubing or similar commercially manufactured synthetic products that are mounted in the snow pack adjacent to the trail. The characteristics of contrasting color and reflectorization mentioned in the previous paragraphs apply. The major differences are the typical lengths of the material, 6'-12', and the necessity for inspection and occasional readjustment to reflect changes in snow depth caused by fresh snow or rain.



- a) Single Stake used to augment an existing fixed object such as a fence post. Note the use of a blazer to provide a second reference point.



**b) Standard two stake configuration leaves no doubt as to the intended trail routing.**

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**Figure 5 Examples of Staking**

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## **Setting the Corridor**

There are two generally accepted methods of establishing a corridor: (a) placing stakes or poles in pairs at right angles to the trail to set a "gate" through which a snowmobiler passes through or (b) setting a single line of single stakes or poles with periodic pairs of stakes or poles to reinforce which side of the stake or pole line is intended for the flow of traffic.

In either case, the next stake/pole or stake/pole pair must be easily visible after passing by a stake/pole or stake/pole pair. This spacing will vary on the nature of the terrain being marked. The frequency of stake/pole sets should be increased significantly to indicate a turn, although if the turn is sharp, the signing requirements for curves discussed earlier should be used. Figure 5 illustrates these concepts.

## **Mounting Considerations**

The methods used to mount trail signs vary greatly depending on the intended permanence of the installation. The following points provide guidance in selecting an appropriate mounting method to suit your circumstance.

1. Generally, signs should be placed to the right of the trail to conform with the riders familiarity with highway signs and normal patterns of traffic on trails.
2. The sightline from the driver to the sign must be clear for the entire distance through which the sign is intended to be viewed. This requires routine monitoring.
3. On private property, signs should be placed as late in the fall as possible and' removed promptly at the end of the season. This reduces vandalism, reduces potential trespass, and conserves sign life by reducing exposure to the sun and elements.
4. Mounting signs on living trees is not recommended. If it is the only alternative and the land-owner approves, use aluminum nails or staples. Ensure that all nails are removed when the signs are removed.
5. On posts, use bolts or screws instead of nails to reduce vandalism and theft. A cordless drill with spare battery packs is an ideal tool to drive screws providing the sign holes are predrilled.

6. Use an existing mounting object, such as a fence post, only if it is within the recommended sign location window and the permission of the landowner has been obtained.
7. Use durable materials for permanent installations, i.e. flexible plastic, fiberglass, steel, or wooden post.
8. If more than one sign is used at the same location, they should be placed vertically with the most important sign placed above the second one.
9. It must be remembered that normally the trail will be used in both directions. Separate and often different signing is required for each direction of travel.
10. Signing should be done by persons who are familiar with the trail and who know where they are and where they are going. When putting up signs, imagine that you have never been in this area or on this trail before. Try to picture what signs would be necessary to get you safely to your destination.
11. Have your signage reviewed by someone less familiar with the area to identify locations that need improvement.
12. Overuse of signs should be avoided. Only authorized trail signs should be allowed to avoid clutter and confusion. Signage posted by business should be carefully controlled by the trail operator working with the landowner.

13. Extra regulatory and caution signs should be carried on grooming equipment and by trail patrollers to replace those which have been vandalized.

14. Maintaining visibility of signs in areas of heavy snowfall accumulations poses additional challenges in terms of sign mounting techniques and materials. These signing situations will require periodic inspections and adjustment of sign poles or stakes throughout the winter to keep signs from being obliterated by snowfall.

## **SAFE SNOWMOBILING**

Trail signs and markers are essentially safety tools. Use them with care and caution to make snowmobiling in Maine a safe and enjoyable experience. The guidance provided to snowmobilers by trail signs should not be interpreted as reducing the snowmobiler's responsibility to operate in a safe manner. Likewise, snowmobiler's should be aware that sign theft is a problem, conditions could change by the hour and that sign maintenance is an ongoing process, so they should not assume that every hazard is identified with a sign.

### **Remember!**

The purpose of snowmobile trail signs is to:

- Regulate the traffic along the trails.
- Warn riders of trail characteristics and potential hazards.
- Create a safe trail environment.
- Provide Snowmobilers with an enjoyable experience.

## **Acknowledgments**

This document consists of materials previously developed by the International Association of Snowmobile Administrators (IASA) and its various working committees as well as materials developed by a number of snowmobile trail operating organizations. We thank all of these individuals and groups for their contributions. We would particularly like to thank the Wisconsin Department of Natural Resources and the Ontario Federation of Snowmobile Clubs.



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Your Snowmobile Registration Fee at Work